**12.2 Quadratic Functions Test Review**

**Part II - Working with Functions**

**Intercept/Factored Form:**

1. **Find the roots/x-intercepts and describe the concavity**

|  |  |
| --- | --- |
| $$y=(x+4)(2x-5)$$ | $$y=-3(x+1)(x+10)$$ |

1. **Find the vertex**

|  |  |
| --- | --- |
| $$y=(x-4)(x-10)$$ | $$y=-3(x+1)(x-5)$$ |

**Standard Form:**

1. **Find the y-intercept and describe the concavity**

|  |  |
| --- | --- |
| $$y=3x^{2}+7x-19$$ | $$y=x^{2}-5x+2$$ |

**Vertex Form:**

1. **Graph Precisely and Analyze**

|  |  |
| --- | --- |
| http://www.mathnstuff.com/gif/9x9nono.gif$y=\left(x-3\right)^{2}-5$Vertex:(max or min?)Axis of symmetry: | $y=-2\left(x+1\right)^{2}+5$ http://www.mathnstuff.com/gif/9x9nono.gifVertex:(max or min?)Axis of symmetry: |
| Domain RangeIncreasing on Decreasing ony-intercept: | Domain RangeIncreasing on Decreasing ony-intercept: |

1. **Rewrite in vertex form, then sketch the graph**

|  |  |
| --- | --- |
| $$y=(x+3)(x+1)$$This is in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ form to begin with…. | $$y=2x^{2}-20x+10$$This is in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ form to begin with…. |